

CANDIDATE AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: Lesquerella globosa (Desvaux) Watson

COMMON NAME: Short's bladderpod

LEAD REGION: 4

INFORMATION CURRENT AS OF: January 5, 2001

STATUS/ACTION (Check all that apply):

☐ New candidate

☒ Continuing candidate

☒ Non-petitioned

☐ Petitioned - Date petition received: ____

☐ No finding yet

☐ 90-day positive - FR date: ____

☐ 12-month warranted but precluded - FR date: ____

☐ Is the petition requesting a reclassification of a listed species?

☐ Listing priority change

Former LP: ____

New LP: ____

☐ Candidate removal: Former LP: ____ (Check only one reason)

☐ A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

☐ F - Range is no longer a U.S. territory.

☐ M - Taxon mistakenly included in past notice of review.

☐ N - Taxon may not meet the Act's definition of "species."

☐ X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Plant - Brassicaceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Indiana, Kentucky, Tennessee

CURRENT STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Indiana, Kentucky, Tennessee

LEAD REGION CONTACT (Name, phone number): Lee Andrews, 404/679-7217

LEAD FIELD OFFICE CONTACT (Office, name, phone number): Asheville, North Carolina
Field Office, Robert R. Currie, 828/259-3939, ext. 224

SUPPORT FIELD OFFICE(S): Bloomington, Indiana Field Office, Cookeville, Tennessee Field Office

BIOLOGICAL INFORMATION (Describe habitat, historic vs. current range, historic vs. current population estimates (# populations, #individuals/population), etc.):

Short's bladderpod is a perennial member of the mustard family (Brassicaceae) that occurs in Indiana, Kentucky, and Tennessee. This species was first described as Vesicaria globosa by Desvaux in 1814 (Payson 1922). In 1888 Watson proposed that, because of several distinctive characters, the American species of the genus Vesicaria be separated into their own genus (Watson 1888). His proposal was to call this genus Lesquerella. This treatment was recognized as valid, and the currently recognized binomial for Short's bladderpod is Lesquerella globosa (Desv.) Wats. The plants are 3 to 5 decimeters tall and have yellow flowers that appear March through May. The leaves are 1.5 to 3 centimeters (cm) long, 0.2 to 0.6 cm wide, gray-green in color, and densely hairy. The fruits develop soon after flowering and are round, small (0.2 to 0.27 cm in diameter) and become slightly hairy as they mature. These round fruits readily distinguish Short's bladderpod from other members of the genus Lesquerella and from other genera in the family such as Brassica and Barbarea (Shea 1993).

Lesquerella globosa grows on steep, rocky wooded slopes and talus areas. It also occurs along cliff tops and bases and cliff ledges. The species usually is found adjacent to rivers or streams and on south to west facing slopes. Most populations are closely associated with outcrops of calcareous rock (Shea 1993). The Indiana population is found within the Shawnee Hills section of the Interior Low Plateau Physiographic Province. The Kentucky populations are found within the Bluegrass section of this Province. The Tennessee populations occur within the Highland Rim and Central Basin sections of the Interior Low Plateau Province (Fenneman 1938, Quarterman and Powell 1978).

Populations vary in size from 2 to about 1,500 individuals; most contain fewer than 50 plants. In a 1992 Status Survey for Short's bladderpod, Shea (1993) reported that there were records of 50 sites that supported or historically supported this species. Of these 50 occurrences, only 26 were found to be extant during the survey. The remaining 24 records were of sites from which the species had been extirpated or lacked sufficient location information to be relocated during the survey. In 1993, Indiana supported one population of the species, Kentucky 14 populations, and Tennessee 11 populations.

In 1998, the Tennessee Department of Conservation (TNDEC) conducted extensive searches for additional populations of Short's bladderpod and revisited most of the previously known sites. Andrea Shea (TNDEC, pers. comm. 1999) reported that these searches revealed the presence of 7 additional sites for the species in Tennessee. These new sites varied in size from 3 to 60 plants. The Kentucky State Nature Preserves Commission (KSNPC) has, within the past few years, revisited all known Kentucky locations for Short's bladderpod. Deb White (KSNPC, pers. comm. 1999) reports that they have not discovered any additional populations of the species and, in 1998, they completed site conservation plans for the highest quality Kentucky Short's bladderpod

sites. Mike Homoya (Indiana Division of Nature Preserves (IDNP), pers. comm. 1999) reported that despite searches for additional Indiana populations of Short's bladderpod, only one site is known to support the species in Indiana. The Indiana population grows on a clay bank adjacent to a dirt road that is periodically flooded. This flooding necessitates regular road grading in order to remove debris deposited during flood events.

At the present time, there are 18 known locations for Short's bladderpod in Tennessee. Cheatham County has six sites. The two largest known populations occur in Cheatham County; one of these large sites contains 1,000 plants and the other contains 1,500 plants. The remaining four populations have 6, 6, 7, and 50 plants respectively. Davidson County has four sites that currently support the species. These vary in size from 13 to 50 plants. Jackson County has three locations supporting Short's bladderpod and these contain 3, 5, and 50 plants, respectively. Montgomery County has two populations, one of these contains 10 plants and the other 21 plants. Smith County also has two populations, one of which has 10 plants and the other has 30 plants. Trousdale County only supports one population which contained 100 to 150 plants in 1998. Estimates of the current (1998) population levels for all of the known Tennessee sites were provided by Andrea Shea (TNDEC, pers. comm. 1999).

Margaret Shea (1993) and Deb White (KSNPC, pers. comm. 1999) report that Kentucky supports 14 Short's bladderpod sites. In 1992, these sites varied in size from 2 to 118 individual plants and in 1998, they varied from 2 to 237 plants. Bourbon County, Kentucky, contains one population of the species that had 118 plants in 1992 and 98 plants in 1998. Clark and Scott counties each have one site for the species and both of these sites only supported 2 plants in 1992. Franklin County contains 11 Short's bladderpod populations that vary in size from 237 plants to 4 plants. Most (7 of 11) of the Franklin County sites contain fewer than 50 plants. In 1998, the KSNPC developed site conservation plans for five of the Kentucky populations. These sites were chosen for conservation plan development because they were believed to be the highest quality sites remaining in Kentucky (D. White, KSNPC, pers. comm. 1999). White's overall assessment of the species in Kentucky is that all sites are generally poor in quality (White, not dated). Only one of the Kentucky populations is protected to any degree; that population is in Clark County. Although this population is within a Registered Natural Area, it is of generally poor quality and contained only 2 plants in 1992.

Historically, there were at least 57 sites supporting Short's bladderpod. Of these 57 sites, only 33 are currently extant. All remaining populations are small and vulnerable to extirpation.

THREATS (Describe threats in terms of the five factors in section 4 of the ESA providing specific, substantive information. **If this is a removal of a species from candidate status or a change in listing priority, explain reasons for change**):

- A. The present or threatened destruction, modification, or curtailment of its habitat or range. Road construction and road maintenance have played a significant role in the decline of Lesquerella globosa. These activities continue to pose threats to the continued existence of most populations. During Shea's 1992 status survey for this species (Shea 1993), she

observed at least three sites that had been lost or drastically reduced by road construction or maintenance. She also noted that road maintenance remains a threat at most of the sites. In the introduction to the site conservation plans developed by the KSNPC for the highest quality sites remaining in Kentucky, White (not dated) states that, with only one exception, all of the sites are roadside occurrences that are no longer part of naturally functioning ecosystems. She also states that most occur as small roadside remnants of natural cliffline or rock outcrops; consequently, her management recommendations for these sites concentrate on implementing roadside maintenance activities in a manner compatible with the protection of Short's bladderpod. Specific activities that have impacted the species in the past and continue to threaten it include bank stabilization, herbicide use, mowing during the growing season, grading of road shoulders, and road widening or repaving. Sediment deposition during road maintenance or from land disturbing activities adjacent to the sites supporting the species also potentially threatens many populations.

Shea (1993) notes that impoundments and artificial water level manipulation threatened and, in a case along the Cumberland River, have destroyed sites supporting the species. Many of the Short's bladderpod locations are adjacent to rivers and streams, and impoundment and water level manipulation still threaten the species.

Invasive non-native vegetation is a significant threat at most sites. White (not dated) listed invasive plants as a major threat at all five of the sites for which she prepared management plans. This exotic vegetation was also noted as a threat by Shea (1993) in her assessment of the species status. Invasive plants that have been identified as potential threats to Short's bladderpod include Lonicera japonica (Japanese honeysuckle), Alliaria petiolata (garlic mustard), Trifolium hybridum (alsike clover), Melilotis alba (sweet clover), Festuca pratensis (fescue), Rosa multiflora (multiflora rose) and Camassia scilloides (wild hyacinth). These plants have often been planted as ornamentals, as cultivated plants, or for erosion control. Unfortunately, after they are established, they often become quite aggressive and displace native vegetation. In many cases these plants will, if left uncontrolled, completely dominate the vegetation of some areas. Short's bladderpod will be lost from many of these sites if active intervention is not undertaken to reestablish the native flora and eliminate the non-native vegetation.

Activities such as commercial and residential construction potentially threaten the species at several sites. These threats can be direct in the form of actual loss due to construction, or indirect in the form of severe habitat alteration from sediment runoff from areas disturbed during construction. Other threats listed by Shea (1993) and White (not dated) include trash dumping, cattle and goat grazing, and shading from overstory trees.

- B. Overutilization for commercial, recreational, scientific, or educational purposes. There is little or no commercial trade in Lesquerella globosa at this time. Most populations are very small and cannot support collection of plants for scientific or other purposes. Inappropriate collecting for scientific purposes or as a novelty is a threat to the species.

- C. Disease or predation. Disease and predation are not known to be factors affecting the continued existence of the species at this time.
- D. The inadequacy of existing regulatory mechanisms. Lesquerella globosa is listed as an endangered plant in Tennessee under that State's Rare Plant Protection and Conservation Act. This law regulates the sale of endangered plants and prohibits anyone from knowingly taking an endangered plant without the permission of the landowner or land manager. The species does not receive any protection on the State level in either Kentucky or Indiana.
- E. Other natural or manmade factors affecting its continued existence. None are known at this time.

SUMMARY OF REASONS FOR REMOVAL OR LISTING PRIORITY CHANGE: N/A

FOR RECYCLED PETITIONS:

- a. Is listing still warranted? ____
- b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? ____
- c. Is a proposal to list the species as threatened or endangered in preparation? ____
- d. If the answer to c. above is no, provide an explanation of why the action is still precluded.

LAND OWNERSHIP (Percentage Federal/state/private, identify nonprivate owners): Most of the sites (91 percent) for this species are under private ownership or within the rights-of way of State and county roads. Two of the Tennessee sites are on lands managed by the U.S. Army Corps of Engineers, Nashville District (6 percent). One Tennessee site is on State-owned lands (3 percent). The Indiana site is on land owned by The Nature Conservancy.

PRELISTING ACTIVITIES (Describe status of conservation agreements or other conservation activities): The KNSPC has developed site conservation plans for the five highest quality sites remaining in Kentucky. Tennessee has conducted extensive searches for additional populations of Short's bladderpod, but has not taken any actions to protect any of the known sites for the species.

The IDNP (John Bacone, IDNP, pers. comm. 1999), the KNSPC (D. White, KNSPC, pers. comm. 1999) and the TNDEC (A. Shea, TNDEC, pers. comm. 1999) all support the elevation of Short's bladderpod to candidate status and the eventual Federal listing of the species as endangered or threatened. The Nashville District Corps of Engineers is aware of the proposed elevation of Short's bladderpod to candidate status, and they anticipate that they will be able to provide any management that is needed to protect the species on lands under their control. Region 3 has reviewed this proposal and supports the elevation of Short's bladderpod to Federal candidate status.

REFERENCES (Identify primary sources of information (e.g., status reports, petitions, journal publications, unpublished data from species experts) using formal citation format):

Payson, E. B. 1922. A Monograph of the genus Lesquerella. Annals of the Missouri Botanical Garden 8:103-236.

Shea, Margaret M. 1993. Status Survey Report on Lesquerella globosa (Desv.) Wats. Unpublished Report. Kentucky State Nature Preserves Commission. 122 pp.

White, Deb. Not dated. Lesquerella globosa Site Conservation Plans. Unpublished report. Kentucky State Nature Preserves Commission. 13 pp.

LISTING PRIORITY (place * after number)

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5*
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, annual retentions of candidates, removal of candidates, and listing priority changes.

Approve: _____
Regional Director, Fish and Wildlife Service Date _____

Concur: _____
Director, Fish and Wildlife Service Date _____

Do not concur: _____
Director, Fish and Wildlife Service Date _____

Director's Remarks: _____

Date of annual review: January 17, 2001

Conducted by: Allen Ratzlaff - Asheville, North Carolina FO

Changes from October 25, 1999 CNOR(check one) Yes X No

Approval: _____
Regional Director Dated _____

Comments: _____

(rev. 6/00)